UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

SUMITOMO DAINIPPON PHARMA CO., LTD. and SUNOVION PHARMACEUTICALS, INC., Plaintiffs, v. EMCURE PHARMACEUTICALS LTD., *et al*., Defendants.	)	Civil Action No. 15-280 (SRC) (CLW) Civil Action No. 15-281 (SRC) (CLW) Civil Action No. 15-6401 (SRC) (CLW) (Consolidated) ***Filed Electronically***

RESPONDING CLAIM CONSTRUCTION BRIEF OF DEFENDANTS EMCURE PHARMACEUTICALS LTD., HERITAGE PHARMA LABS INC., INVAGEN PHARMACEUTICALS, INC., TEVA PHARMACEUTICALS USA, INC. AND TEVA PHARMACEUTICAL INDUSTRIES, LTD.

BLANK ROME LLP
Stephen M. Orlofsky
David C. Kistler
New Jersey Resident Partners
301 Carnegie Center, 3rd Fl.
Princeton, NJ 08540
Orlofsky@BlankRome.com
Kistler@BlankRome.com

Attorneys for Defendants Emcure Pharmaceuticals, Ltd. and Heritage Pharma Labs Inc. (formerly known as Emcure Pharmaceuticals USA, Inc.)

CAESAR RIVISE, PC
Salvatore Guerriero
Robert S. Silver (*Pro Hac Vice*)
Pei-Ru Wey (*Pro Hac Vice*)
1635 Market Street
12th Floor - Seven Penn Ctr.
Philadelphia, PA 19103-2212
sal@crbcp.com

Attorneys for Defendant InvaGen Pharmaceuticals, Inc.

PATUNAS LAW LLC
Michael E. Patunas
24 Commerce St., Suite 606
Newark, NJ 07102
mpatunas@patunaslaw.com

Of Counsel:
GOODWIN PROCTER LLP
Ira J. Levy
Cynthia Lambert Hardman
Brian J. Prew
Linnea P. Cipriano
The New York Times Building
620 Eighth Avenue
New York, NY 10018

Attorneys for Defendants Teva Pharmaceuticals USA, Inc. and Teva Pharmaceutical Industries, Ltd.

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I. INTRODUCTION

Pursuant to Local Patent Rule 4.5(c) and the Court's November 24, 2015 Order (ECF Docket No. 45), Defendants respectfully submit this joint responsive claim construction brief to address the parties' dispute over the proper interpretation of Claim 14 of U.S. Patent No. 5,532,372 (the "'372 patent").

Defendants' proposed construction of the disputed term of the '372 patent relies largely upon intrinsic evidence, such as the plain language of the '372 patent specification and prosecution history. Plaintiffs, in contrast, seek to expand the scope of Claim 14 by advocating for an overly broad construction without any intrinsic basis, and without persuasive authority. Plaintiffs' argument begins with an identification of the "form of lurasidone within Latuda®," then selectively reviews the record in a desperate attempt to articulate a claim construction that could encompass the commercial product. With this predefined endpoint in mind, Plaintiffs' technical expert, Dr. Stephen Davies, also selectively relies on portions of the specification while disregarding the prosecution history of the '372 patent and well-established scientific literature. Plaintiffs' flawed claim construction methodology results in a proposed construction that is inconsistent with the totality of the intrinsic evidence and applicable case law.

As discussed in Defendants' opening brief and herein, the intrinsic evidence makes clear – and Plaintiffs have failed to effectively contest – three critically important points in this claim construction proceeding: 1) Claim 14 is directed to Compound 101, 2) Compound 101 is distinct from Compound 105, and 3) Compound 101 is a racemic mixture only. Thus, Defendants respectfully submit that, for the reasons explained below, Defendants' proposed construction should be adopted in this case.

II. ARGUMENT

A. Contrary To Plaintiffs' Argument, Compound 101 – Not Compound 105 – Is The "Preferred Embodiment"

As shown below, Compound 101 is the only disclosed compound that meets both specific objectives of the '372 patent – anti-psychotic activity and reduced side effects. (See Declaration of David C. Kistler dated June 15, 2016 ("Kistler Dec."), Ex. D ('372 patent at col. 2, lines 9-12)). This is demonstrated by experimental data reported in the '372 patent, and confirmed by Plaintiffs' representations to the United States Patent and Trademark Office ("PTO") during prosecution. A review of the intrinsic evidence can only lead to one conclusion: Compound 101 is the "preferred embodiment".[1] The intrinsic evidence likewise demonstrates that Compound 101 is a separate and distinct compound from Compound 105, Claim 14 is directed to Compound 101 and Compound 101 is a racemic mixture.

1. Compound 101 And Compound 105 Are Separate And Distinct Compounds

It is clear from the specification that Compound 101 and Compound 105 have different properties and are appropriately identified as distinct compounds. For example, Compound 101 and Compound 105 have different melting points and pharmacological activities. (See Kistler Dec., Ex. D at col. 31, line 9, col. 32, line 21, and Table 2 at col. 13, lines 4-10). Accordingly, Compound 101 is not shorthand for Compound 105.

Compound 101 is also not a genus or other group containing Compound 105. Table 2 specifically compares a biological property, dopamine D_2 binding, of Compound 101 with that of

[1] To the extent Plaintiffs are arguing that Compound 105 is encompassed by Claim 14 because it is "a" preferred embodiment (Kistler Dec., Ex. D ('372 patent at col. 14, lines 56-59)), that argument is also unpersuasive. The '372 patent discloses that every example in the patent (i.e., dozens of Compounds) are "a" preferred embodiment. Not even Plaintiffs are advocating that Claim 14 must encompass all of those compounds.

Compound 105 and a reference drug, haloperidol, confirming that Compound 101 and 105 are distinct entities. (Id. at col. 13, line 4-10).

2. The Intrinsic And Extrinsic Evidence Demonstrate That Claim 14 Is Directed To Compound 101, A Racemic Mixture

As discussed in Defendants' opening brief (section III.C), Claim 14 was added during prosecution and the structural formula shown in Claim 14 only appears once in the specification. The structural formula shown in issued Claim 14 is the same as the free base of the structural formula depicted at the bottom of column 30 of the '372 patent as Compound 101. Nowhere else does this structural formula appear in the '372 patent. The intrinsic evidence thus firmly supports Defendants' position that Claim 14 is directed to Compound 101.

Moreover, Plaintiffs cannot and do not dispute that Compound 101 is a mixture of optical isomers (see Plaintiffs' Br. at 5; see also Declaration of Dr. Stephen Davies dated June 15, 2016 ("Davies Dec."), ¶ 30), but they dispute the portion of Defendants' construction that clarifies the mixture of isomers is racemic (*i.e.*, mixtures that contain 50% of one isomer and 50% of the other isomer), and argue instead for a broader construction that includes any mixture of the two isomers.[2]

Defendants' construction is correct because, among other reasons, Compound 101 is synthesized using Compound 201 (a racemic mixture), which necessarily means Compound 101 is also a racemic mixture. (See Defendants' Br. at section III.D; Declaration of Steven Worth Baldwin, Ph.D. dated June 15, 2016 ("Baldwin Dec."), ¶¶ 34-36). To avoid this truth, and

[2] Plaintiffs rely heavily on the Declaration of Dr. Stephen Davies. However, Plaintiffs failed to properly disclose the substance of his expected testimony in accordance with the Local Patent Rules and therefore it should be stricken from the record. (See ECF Docket No. 98). As discussed below, Dr. Davies' declaration also suffers from additional infirmities. Dr. Davies ignores the prosecution history of the '372 patent (see Davies Dec., ¶ 43) and summarily dismisses the scientific literature cited by Defendants without explanation and without any discussion of its substance. (See id., ¶ 44).

inconsistent with his position in other cases, Plaintiffs' expert, Dr. Davies, carefully crafted his Declaration submitted in this case; stating only that racemic mixtures "may" result when synthesizing an organic compound that has a stereogenic carbon, as follows:

> When chemists synthesize an organic compound that has a stereogenic carbon, *the material that they obtain*, depending on the synthesis process used, *may* *contain* an equal mixture of two enantiomers, such that it contains exactly 50% of the (+)-enantiomer and exactly 50% of the (-)- enantiomer. Such material is referred to as a "racemic mixture" or "racemate."

(Davies Dec., ¶ 20) (emphasis added).

However, when asked to opine on the same issue in other patent cases, Dr. Davies did not equivocate as he does here. For example, in UCB Societe Anonyme v. Mylan Laboratories, Inc., Civil Action No. 1:04-cv-0683 (N.D. Ga. 2004), Dr. Davies used unqualified language in his declaration by stating:

> When chemists synthesize an organic compound that has a stereogenic carbon, unless specific steps are taken, *the material that they obtain contains* equal amounts of both enantiomers and is called "racemic."

(Supplemental Declaration of David C. Kistler dated August 16, 2016 ("Supp. Kistler Dec."), Ex. A, ¶ 27) (emphasis added). In another case, Bausch & Lomb Inc. v. Sandoz Inc., Civil Action No. 14-cv-01325 (D.N.J. 2014) (J. Hillman), Dr. Davies made the unqualified statement to this Court that:

> When chemists synthesize an organic compound that has a chiral carbon, unless specific steps are taken, *the material that they obtain contains* both enantiomers in equal proportion (i.e., 50% "(R)" and 50% ("S") molecules). Such material may be generically referred to as a "racemic mixture" or "racemate."

(Supp. Kistler Dec., Ex. B, ¶ 21) (emphasis added). Similarly, in AstraZeneca AB v. Hanmi USA, Inc., Civil Action No. 11-cv-00760 (D.N.J. 2011) (J. Pisano), Dr. Davies again made the following unqualified statement to this Court:

> When chemists synthesize an organic compound that has a stereogenic carbon, unless specific steps are taken, *the material that they obtain contains* both enantiomers in equal proportions (i.e., 50% ("R)" and 50% "(S)" molecules). Such material may be generally referred to as a "racemic mixture" or "racemate."

(Supp. Kistler Dec., Ex. C, ¶ 27) (emphasis added).

The '372 patent's description of the synthesis of Compound 101 shows that no such "specific steps" were taken. In the absence of these "specific steps," it is clear from Plaintiffs' own expert, Dr. Davies, that Compound 101 will not be present as any mixture, rather it will be present as a racemic mixture – an equal amount of enantiomers. (See also Baldwin Dec., ¶ 36) (confirming that no specific steps were taken such as resolving any of the intermediates in the synthesis of Compound 201 to produce something other than a racemic mixture in the synthesis of Compound 101). Here, the Davies Declaration was crafted to carefully avoid conceding to this Court that Compound 101 is racemic even though Compound 101 is synthesized using Compound 201 (a racemic mixture), which necessarily means Compound 101 will also be a racemic mixture. Thus, it is clear that Plaintiffs' proposed construction, encompassing any mixtures, is wholly unsupported by the Davies Declaration or any other evidence submitted by Plaintiffs.

3. The Intrinsic Evidence Conclusively Demonstrates That Compound 101 Is The "Preferred Embodiment"

Plaintiffs' argument rests largely on the assertion that when the '372 patent inventors filed the application for the '372 patent, they identified the compound known as lurasidone hydrochloride as their "preferred embodiment." (Plaintiffs' Br. at 3). From there, Plaintiffs contend that "Defendants' construction would exclude the '372 patent inventors' preferred embodiment of the chemical compound lurasidone." (Id.).

According to Dr. Davies, lurasidone hydrochloride is Compound 105. (See Davies Dec., ¶ 33). Plaintiffs and Dr. Davies, however, ignore the '372 patent specification's specific references to Compound 105 which show that it is both different from Compound 101 and not "the preferred embodiment."

Compound 101 is the only disclosed compound meeting both objectives of the '372 patent. The specific objectives of the '372 patent were to provide an anti-psychotic agent with reduced side effects. (See Kistler Dec., Ex. D ('372 patent at col. 2, lines 9-12)). Prior conventional antipsychotic agents were "accompanied by [] central or peripheral system side effects such as extrapyramidal motor disturbance . . . and depression of blood pressure (e.g., orthostatic hypotension)." (Id. at col. 2, lines 1-5). The patentee explains that "[t]he problem underlying the present invention is to provide an excellent psychotic [sic] agent suppressed in the above side effect as generally observed on the conventional anti-psychotic agents." (Id. at col. 2, lines 9-12).

The prosecution history of the '372 patent confirms the importance of the lack of side effects as an object of the invention:

> Test results have also shown that the claimed compounds are quite weak in catalepsy inducing activity (i.e. extrapyramidal side effect) (cf. Table 5, page 28). Accordingly, it would be understood to those skilled in the art that the claimed compounds would be useful as anti-psychotic agents for therapy of manic depressive psychosis with minimal side effects.

(Kistler Dec., Ex. J, (December 29, 1994 Amendment, pg. 7)).

Accordingly, the '372 patent contains experimental data on side effect evaluations at column 14, lines 8-50. The two tables containing side effect data compare Compound 101 with conventional drugs. Table 5 contains data relating to "catalepsy inducing activity which is the

typical central nervous system side effect, i.e. extrapyramidal side effect on clinical use of the [sic: anti-psychotic] drug . . .":

TABLE 5

Test compound	ED_{50} (mg/kg)	Ratio to anti-apomorphine activity
Compound No. 101	747	72.5
Haloperidol	3.1	4.6
Chlorpromazine	18	4.3

(Kistler Dec., Ex. D at col. 14, lines 10-12). Table 6 contains data relating to "cardiovascular organ side effect such as orthostatic hypotension . . .":

TABLE 6

Test compound	ED_{50} (mg/kg)	Ratio to anti-apomorphine activity
Compound No. 101	>1000	>97
Haloperidol	4.1	6.0
Chlorpromazine	6.0	1.4

(Id. at col. 14, lines 32-22). No experimental data regarding side effects is provided for any compound other than Compound 101. The specification also provides both *in vitro* and *in vivo* data showing the beneficial pharmacological properties of Compound 101. (Id. at col. 12, line 31 to col. 14, line 5). Importantly, *in vivo* data is not provided for Compound 105. Accordingly, the specification conveys that Compound 101 – not Compound 105 – meets the applicant's clearly expressed objective of suppressed side effects. Plaintiffs also ignore the repeated instances in which applicants informed the PTO that Compound 101 – not Compound 105 – was the focus of their application. As discussed in Defendants' opening brief (section III.C), applicants responded to numerous PTO communications with repeated assertions that the object of their invention was Compound 101. Plaintiffs never made such statements with respect to Compound 105. Perhaps this explains why Dr. Davies' declaration mentions the prosecution

history only to summarily discount everything in it without explanation or analysis. (See Davies Dec., ¶ 43).

However, if Compound 105 were truly "the preferred embodiment" as Plaintiffs now argue (decades after the '372 patent application was filed), applicants could have simply said so during prosecution or in the specification. No such statements exist. Instead, the prosecution history and the '372 specification repeatedly focus on Compound 101. As summarized in the table below, Defendants' proposed construction aligns Claim 14 with Compound 101, a construction consistent with all of the intrinsic evidence; and there is simply no evidence in the intrinsic record to support Plaintiffs' ex-post facto identification of Compound 105 as "the preferred embodiment":

	Compound No.		
	101	104	105
'372 Specification **Pharmacological Activity** Dopamine D_2 Binding Assay – Table 2	✓		✓
Antipsychotic Activity – Table 3	✓		
Anti-Climbing Activity – Table 4	✓		
Side Effects Catalepsy inducing activity (extrapyramidal side effect) – Table 5	✓		
Ptosis inducing activity (orthostatic hypotension) – Table 6	✓		
'372 File History Ohno Declaration	✓		
Amendment (December 29, 1994)	✓		
Response (March 30, 1995)	✓		
Response (July 17, 1995)	✓		

Moreover, Plaintiffs' proposed construction of Claim 14 would also encompass Compound 104, the enantiomer of Compound 105, a compound for which neither activity nor side effect data is reported in the '372 patent. Plaintiffs' proposed construction would also encompass mixtures of Compounds 104 and 105 in any proportion.

Defendants' proposed construction – which directs Claim 14 to Compound 101, "the preferred embodiment" of the '372 patent – is thus the correct one that should be adopted by this Court. See Phillips v. AWH Corp., 415 F.3d 1303, 1316 (Fed. Cir. 2005) (en banc) ("The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction.") (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1250 (Fed. Cir. 1998)).

B. Even Assuming Compound 105 Was The Preferred Embodiment, Claim 14 Need Not Cover It

Plaintiffs argue that Defendants' proposed construction should not be accepted because a claim construction that excludes the "preferred embodiment" is rarely correct. (See Plaintiffs' Br. at 12-13). But, even if, arguendo, Compound 105 was somehow determined to be the "preferred embodiment" – and the intrinsic evidence clearly shows that it is not – Claim 14 may properly be construed to exclude it where, as here, such a construction is compelled by the intrinsic evidence. See Elekta Instrument S.A. v. O.U.R. Scientific Int'l, Inc., 214 F.3d 1302, 1308 (Fed. Cir. 2000) (adopting proposed claim construction that excluded the preferred and only embodiment disclosed in the specification "in light of the prosecution history and the unambiguous language of the amended claim"); see also Rheox, Inc. v. Entact, Inc., 276 F.3d 1319, (Fed. Cir. 2002) (reaching a claim interpretation excluding some of the preferred embodiments in light of the prosecution history).

The '372 patent has a total of 20 claims and it is a well-settled proposition of patent law that not every claim has to cover every embodiment:

> It is true that constructions that exclude the preferred embodiment are disfavored. However, in a case such as this***, where the patent describes multiple embodiments, every claim does not need to cover every embodiment***.

Pacing Tech. v. Garmin Int'l, Inc., 778 F.3d 1021, 1026 (Fed. Cir. 2015) (citations omitted) (emphasis added); see also August Tech. Corp. v. Camtek, Ltd., 655 F.3d 1278, 1285 (Fed. Cir. 2011) (quotations omitted) ("The mere fact there is an alternative embodiment disclosed in the [asserted patent] that is not encompassed by [our] claim construction does not outweigh the language of the claim, especially when the court's construction is supported by the intrinsic evidence."); PSN Ill., LLC v. Ivoclar Vivadent, Inc., 525 F.3d 1159, 1166 (Fed. Cir. 2008) (citing Oatey Co. v. IPS Corp., 514 F.3d 1271 (Fed. Cir. 2008)) ("Additionally, we note that Oatey is not a panacea, requiring all claims to cover all embodiments. Instead, courts must recognize that disclosed embodiments may be within the scope of other allowed but unasserted claims.").

Here, according to Plaintiffs, Claim 14 is not the only claim in the '372 patent to encompass lurasidone hydrochloride. (See Declaration of Preston K. Ratliff II dated June 15, 2016 ("Ratliff Dec.") at Ex. 8). In fact, Plaintiffs informed the PTO that, in their opinion, at least ten (10) different claims of the '372 patent encompassed lurasidone hydrochloride. (See id.). Thus, Plaintiffs' argument that "the preferred embodiment" is being improperly excluded under Defendants' proposed construction of Claim 14 is both factually and legally baseless.

C. Dr. Davies' Opinions Are Conclusory And Contrary To The Literature

Dr. Davies discounts the scientific literature showing the scientific convention that a drawing of a single enantiomer is often used as shorthand for the racemic mixture of that

enantiomer and its mirror image. (See Baldwin Dec., ¶¶ 27-28). Rather than addressing the substance of the literature, or articulating a reason why the literature is not supportive of Defendants' construction, or stating why the literature should not be followed, Dr. Davies attempts to brush these references off as inconsequential by stating:

> I have reviewed the references cited by the Defendants in Exhibit A of the Joint Claim Construction and Prehearing Statement. They do not provide any information that would impact a person of ordinary skill's understanding of Claim 14.[3]

(Davies Dec., ¶ 44).

Despite Dr. Davies' weak attempt to side-step these references, Defendants' expert, Professor Steven Baldwin, has explained that the articles were cited because they reflect long-standing conventions in chemistry, that is, that the depiction of a single enantiomer can be used as a short-hand for a racemic mixture of the enantiomer and its mirror image compound.[4] As discussed above, Dr. Davies does not specifically dispute these articles, rather he concludes, without explanation, that the articles do not impact his understanding of Claim 14. (See Davies Dec., ¶ 44). Thus, it is uncontroverted, as Professor Baldwin explained in his Declaration, that chemists often draw one enantiomer as shorthand for a racemic mixture, which led Professor Baldwin to conclude that the inventors used exactly this convention in drawing Claim 14 in their '372 patent. (See Baldwin Dec., ¶¶ 27-29).

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[3] All seven of the articles cited by Professor Baldwin in paragraphs 27 and 28 of his Declaration were identified in Exhibit A to the Joint Claim Construction and Prehearing Statement filed on May 4, 2016.

[4] The dates of these articles are not material because they are not relied on as prior art, but rather show the state of the art as of the priority date. As Professor Baldwin explained, the same conventions for referring to racemates were used in 1991 and earlier. (See Baldwin Dec., ¶¶ 27-28).

D. Plaintiffs' Other Arguments Are Likewise Insufficient To Establish Their Proposed Construction

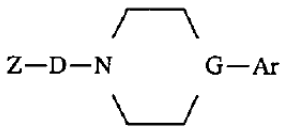
1. Plaintiffs' Reliance On Column 4, Lines 51-53 Of The '372 Patent Is Misplaced

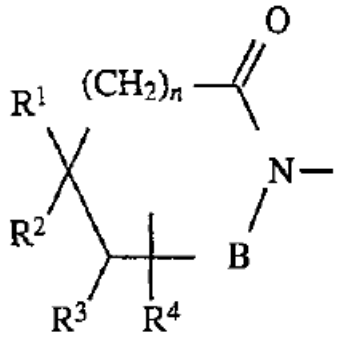
To support their argument, Plaintiffs cite to an excerpt from the patent specification ("this invention involves these isomers or their mixtures as well"), then contend this excerpt specifically applies to Claim 14. (See Plaintiffs' Br. at 5, 12, 14, 15; Davies Dec., ¶ 29). However, when reviewed in its proper context, this passage is part of a larger passage that relates to "compound (I)", which is applicable to Claim 1, not Claim 14:

> The present invention covers the acid addition salt formed between the imide compound (I) and an organic or inorganic acid. Examples of the inorganic acid are hydrochloric acid, hydrobromic acid, hydroiodic acid, sulfuric acid, etc., and examples of the organic acid are acetic acid, oxalic acid, citric acid, malic acid, tartaric acid, maleic acid, furmeric acid, etc.
>
> The imide compound (I) can have stereo and optical isomers, and this invention involves these isomers or their mixtures as well.

(Kistler Dec. at Ex. D ('372 patent at column 4, lines 44-53)).

This description of the "present invention" on its face is directed to compound (I). Imide compound (I) is described in the '372 patent at column 3, line 3-column 4, line 43. The first part of the description of compound (I) is shown below:

> Accordingly, an object of the present invention is to provide an imide compound of the formula:
>
> 
>
> (I)
>
> wherein
> Z is a group of the formula:



in which B is a carbonyl group or a sulfonyl group R^1, R^2, R^3 and R^4 are each a hydrogen atom or a lower alkyl group, or R^1 and R^2 or R^1 and R^3 may be combined together to make a non-aromatic hydrocarbon ring or R^1 and R^3 may be combined together to make an aromatic ring, said non-aromatic hydrocarbon ring being optionally bridged with a lower alkylene group or an oxygen atom therein and said aromatic hydrocarbon ring, said non-aromatic hydrocarbon ring and said lower alkylene group being each optionally substituted with at least one lower alkyl, and n is an integer of 0 or 1;

D is a group of the formula:

$$—(CH_2)_p—A—(CH_2)_q—$$

in which A is a non-aromatic hydrocarbon ring optionally bridged with a lower alkylene group or an oxygen atom, said non-aromatic hydrocarbon ring and said lower alkylene group being each optionally substituted with at least one lower alkyl, and p and q are each an integer of 0, 1 or 2; and

Ar is an aromatic group, a heterocyclic aromatic group, a benzoyl group, a phenoxy group or a phenylthio group and G is >N–, >CH– or >COH– or Ar is a biphenylmethylidene group and G is >C═, all of the above groups being each optionally substituted with at least one of lower alkyl, lower alkoxy and halogen; and its acid addition salts.

(Kistler Dec. at Ex D ('372 patent at column 3, lines 3-44)).

Compound (I) embraces over one billion compounds. (See Supplemental Declaration of Steven Worth Baldwin, Ph.D. dated August 15, 2016 ("Supp. Baldwin Dec."), ¶ 4). The structural formula of compound (I) shown at the top of column 3 is the same structural formula recited in Claim 1. Thus, the passage at column 4, lines 51-53 on which Dr. Davies and

Plaintiffs doggedly rely (see Davies Dec., ¶ 29; see also Plaintiffs' Br. at 5), is applicable to Claim 1, not Claim 14. In addition, the structural formula depicted in Claim 1 represents a large genus of compounds, some of which are chiral and some of which are not. (See Supp. Baldwin Dec., ¶ 5; see also Supp. Kistler Dec., Ex. D (Davies Deposition Tr. at 22:3-11)). Because the structural formula of Claim 1 cannot depict the stereochemistry of the large number of both chiral and achiral compounds in the genus, it depicts the genus as a flat structure with no indication of stereochemistry. (See Kistler Dec., Ex. D ('372 patent at col. 3, lines 5-10)). In this situation, a reference to optical isomers, such as that at column 4, lines 51-53, is appropriate to indicate that the formula is indeed generic and that the inventors understood that it covered both chiral and achiral compounds. (See Supp. Kistler Dec., Ex. D (Davies Deposition Tr. at 22:15-24:6)). The same is not true for Claim 14, a very narrow claim, which has its own very specific intrinsic evidence that shows that it represents a single compound with known stereochemistry – it is a racemic mixture.

Plaintiffs' efforts to take a passage describing the broad genus of compounds claimed in Claim 1 and inappropriately apply it to the narrowly focused Claim 14 should be rejected.

2. Defendants' Notice Letters Are Not Intrinsic Evidence Of Claim Construction

Plaintiffs have taken the unsustainable position that Defendants' Notice Letters are relevant to the proper construction of Claim 14. (See Plaintiffs' Br. at 11-13). Federal Circuit jurisprudence on claim construction is well-established:

> The inquiry into the meaning that claim terms would have to a person of skill in the art at the time of the invention is an objective one. This being the case, a court looks to those ***sources available to the public that show what a person of skill in the art would have understood disputed claim language to mean***. Those sources include the words of the claims themselves, the remainder of the specification, the prosecution history, and extrinsic evidence

> concerning relevant scientific principles, the meaning of technical terms, and the state of the art.

Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc., 381 F.3d 1111, 1116 (Fed. Cir. 2004) (emphasis added).

This established rubric for claim construction does not permit supplanting the meaning derived from publicly available sources of evidence, and in particular intrinsic evidence, with meanings allegedly indicated in litigation documents that would not be available to one skilled in the art at the time of the alleged invention. And Plaintiffs cite no case law to the contrary. Indeed, Plaintiffs acknowledged that the "proper construction of Claim 14 is grounded in the plain language of the claim and the intrinsic record as understood by those skilled in the art." (Plaintiffs' Br. at 11). Defendants' Notice Letters, which were created more than twenty years after the filing date of the '372 patent, have no bearing on claim construction and Plaintiffs should not be heard to argue otherwise.[5]

3. The Pfizer Cases Are Readily Distinguishable

Contrary to Plaintiffs' suggestion, the Pfizer cases[6] do not create a bright-line rule that a depiction of a single enantiomer in a claim must always be construed to cover the individual enantiomers, the racemic mixture, and other mixtures thereof. (See Plaintiffs' Br. at 8-9, 14).

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[5] Even if the Court were to consider Defendants' Notice Letters in this claim construction proceeding, they are far from unequivocal statements adopting Plaintiffs' proposed constructions. For example, consistent with Defendants' proposed construction, Teva's Notice Letter states: "[w]e construe this chemical formula to mean a mixture of the (+) and (-) isomer of Compound No. 101 . . . ." (Ratliff Dec., Ex. 4 at 8). Moreover, these Notice Letters involve questions of law related to claim construction, which was not decided at the time the Notice Letters were prepared. Thus, the Court should reject any argument that these documents are binding "admissions" on Defendants.

[6] Pfizer, Inc. v. Teva Pharm. USA, Inc., 555 F. App'x 961 (Fed. Cir. 2014); Pfizer, Inc. v. Ranbaxy Labs. Ltd., 457 F.3d 1284 (Fed. Cir. 2006).

The clear factual differences between the '372 patent and the patents-in-suit in the Pfizer cases make these cases inapposite.

First, in Pfizer v. Teva, the Federal Circuit affirmed the lower court's construction that a claim reciting a chemical name ("4-amino-3-(2-methylpropyl) butanoic acid, or a pharmaceutically acceptable salt thereof") covered the chemical generally, without limitation as to stereochemical form. Crucially, the claim language and intrinsic evidence in Pfizer v. Teva was silent as to stereochemistry; unlike the situation here, where the intrinsic evidence makes clear that the claim is limited to a racemic mixture. See Pfizer v. Teva, 555 F. App'x at 965.

Next, in Pfizer v. Ranbaxy, the claim depicted a single enantiomer of a compound designated formula (I), which compound had four isomers: R-trans, S-trans, R-cis, and S-cis. Pfizer v. Ranbaxy, 457 F.3d at 1289. Ranbaxy argued that the claim should be limited to racemic mixtures of the isomers. See id. at 1288. The Federal Circuit disagreed, finding that a disclosure in the specification of a type not present in the '372 patent indicated that the claim was not so limited for a number of different reasons. See id. at 1289. First, the patent at issue "consistently describe[d] the invention as a class of 'trans' compounds." Id. (emphasis added). Second, the specification acknowledged that formula (I) encompassed four individual isomers, but expressly disclaimed two of them (the cis-isomers) by stating: "'This invention contemplates only the trans-form of the compounds of formula I above.'" Id. (quoting the '893 patent at issue). The Pfizer v. Ranbaxy court interpreted this language to mean that the invention would otherwise encompass all four isomers, but for the patentee's express disclaimer of the cis-isomers. See id. The court then found no further disavowal of claim scope that would exclude the individual trans-enantiomers and limit formula (I) to trans-racemates. See id. Finally, the presence of dependent claim 5, which was expressly limited to trans-racemic mixtures ("trans-

(±)"), reinforced the construction. Id. Ranbaxy's proposed construction would have rendered the "±" term superfluous. Id.; see also Pfizer, Inc. v. Ranbaxy Labs. Ltd., 405 F. Supp. 2d 495, 504 (D. Del. 2005). Here, however, none of these factors exist in the '372 patent itself and Plaintiffs cannot be heard to argue otherwise.

Accordingly, neither Pfizer v. Teva nor Pfizer v. Ranbaxy create a "bright line" rule that requires this Court to interpret a single enantiomer as embracing the individual enantiomers, racemic mixtures, and other mixtures thereof. Rather, the construction in both Pfizer cases is based on specific intrinsic evidence that is not found in the '372 patent. Thus, neither Pfizer case is applicable to the construction of Claim 14 of the '372 patent.

4. Plaintiffs' 2010 Patent Term Extension Request Has No Probative Value Here And Should Be Disregarded In Its Entirety

As purported evidence that Claim 14 encompasses lurasidone hydrochloride[7], Plaintiffs rely upon a 2010 request for patent term extension that they prepared and submitted to the PTO. (See Plaintiffs' Br. at 7 (citing Ratliff Dec., Exs. 8 and 9)). As an initial matter, this request was filed over 14 years after the '372 patent issued, and therefore, would provide no guidance or information as to how "the PTO and the inventor understood the patent" during prosecution. See supra, Phillips, 415 F.3d at 1317. Because prosecution on the merits for the '372 patent closed on February 1, 1996 – when the Notice of Allowability was issued by the PTO (See Supp. Kistler Dec., Ex. E) – this 2010 document sheds no light on the proper construction of Claim 14,

[7] Plaintiffs' repeated use of the name "lurasidone" in its proposed construction is wholly inappropriate. Not only is the term "lurasidone" absent from the '372 patent, but the chemical name "lurasidone" was not even approved until 2005, almost ten years after the '372 patent issued. Thus, "lurasidone" is not – and cannot be – the meaning that the disputed claim term would have to a person of skill in the art at the time of the invention.

and, as a matter of PTO practice, does not reflect any substantive view of the PTO at any time.[8] The Manual of Patent Examining Procedures ("MPEP"), the official PTO manual for Patent Examiners, makes clear that the PTO generally accepts an applicant's representations at face value and does not make an independent evaluation of the truth or accuracy of the applicant's assertions:

> The determination as to whether a patent is eligible for an extension will normally be made solely from the representations contained in the application for patent term extension.

(MPEP at § 2755).

Thus, the fact that the applicant identified Claims 1, 2, 5, 6, 8(6), 9(6), 10, 11, 12, 13 and 14 in the patent term extension request as covering the patent owner's commercial product is not a determination by the PTO regarding the correctness of that assertion, or the proper claim construction of the disputed term in Claim 14. Accordingly, the Patent Term Extension Request is nothing more than a 14-years after-the-fact, self-serving assertion by Sumitomo, as the patent owner, which does not in any way reflect a determination by the PTO that Claim 14 actually encompasses lurasidone hydrochloride, or what the proper claim construction is here. See Portney v. CIBA Vision Corp., Case No. SACV07-854-AG, 2009 U.S. Dist. LEXIS 122761, at *14 (C.D. Cal. Dec. 23, 2009) (". . . Portney now argues that the PTO nonetheless 'determined' in the '461 term extension process that the '461 claims covered the ARRAY lens having constant segments. . . . The PTO, however, can merely take the patentee at his word in the *ex parte* term extension process. 37 C.F.R. § 1.750 ('A determination as to whether a patent is eligible for

[8] Specifically, applicants filed the Petition for Patent Term Extension with the PTO under 35 U.S.C. § 156 on December 9, 2010, to extend the term of the '372 patent. The request states that "[t]he patent claims the active ingredient in the approved product, Latuda® (lurasidone hydrochloride) in at least Claims 1, 2, 5, 6, 8(6), 9(6), 10, 11, 12, 13 and 14." While the PTO granted the request for the patent term extension, the PTO never specifically ruled upon Plaintiffs' assertion that Claim 14 covers its commercial "lurasidone" product.

extension may be made by the Director solely on the basis of the representations contained in the application for extension . . . .'). Accordingly, the PTO's decision to extend the term of the '461 patent is not helpful for claim construction.").

As a result, Defendants respectfully submit that Plaintiffs' reliance upon the Patent Term Extension Request in support of its claim construction is both misguided and unpersuasive, and should be disregarded by the Court.

E. Plaintiffs Tacitly Admit That There Is No Substantive Dispute Over The "Acid Addition Salt Thereof" Term

As previously explained by Defendants, Plaintiffs belatedly sought to create a dispute over the meaning of "or an acid addition salt thereof" term in Claim 14. (Defendants' Br. at section III.F). Dr. Davies' Declaration, however, undermines Plaintiffs' position. In fact, Dr. Davies agrees with Defendants that the term "or an acid addition salt thereof" would be understood as a "salt formed between a basic compound depicted in Claim 14 and an organic or inorganic acid." (Davies Dec., ¶¶ 39-40). Dr. Davies' Declaration establishes that there is no real dispute between the parties over the meaning of the term. Plaintiffs have thus failed to present any valid reason to import the dispute over the meaning of the body of Claim 14 into the "acid addition salt thereof" term. Accordingly, Plaintiffs' failed and belated attempt to create a red herring dispute over the meaning of the term "or an acid addition salt thereof" in Claim 14 should be ignored in its entirety.

III. CONCLUSION

When the intrinsic record is properly reviewed to ascertain the scope and construction of Claim 14 the answer is clear: Claim 14 is directed to Compound 101, and Compound 101 is a racemic mixture and no more.

Plaintiffs, on the other hand, argue that the Court should pre-determine what is covered by Claim 14, then selectively rely on the specification and disregard other evidence, including the prosecution history, to reach the predefined result. This is inconsistent with the claim construction process as delineated by the Federal Circuit, and should be rejected.

Thus, for the reasons discussed above and in Defendants' opening brief, Defendants respectfully request the Court to construe the disputed term in accordance with Defendants' proposed construction.

Respectfully submitted,

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s/ David C. Kistler
BLANK ROME LLP
A Pennsylvania LLP
Stephen M. Orlofsky
David C. Kistler
New Jersey Resident Partners
301 Carnegie Center, 3rd Floor
Princeton, New Jersey 08540

Jay P. Lessler
Christopher K. Hu (admitted *pro hac vice*)
BLANK ROME LLP
The Chrysler Building
405 Lexington Avenue
New York, New York 10174-0208

Attorneys for Defendants
Emcure Pharmaceuticals, Ltd.
and Heritage Pharma Labs Inc.
(formerly known as Emcure
Pharmaceuticals USA, Inc.)

/s/ Michael E. Patunas
PATUNAS LAW LLC
Michael E. Patunas
24 Commerce Street, Suite 606
Newark, NJ 07102

Of Counsel:
GOODWIN PROCTER LLP
Ira J. Levy
Cynthia Lambert Hardman
Brian J. Prew
Linnea P. Cipriano
The New York Times Building
620 Eighth Avenue
New York, NJ 10018

Attorneys for Defendant Teva Pharmaceuticals USA, Inc. and Teva Pharmaceutical Industries, Ltd.

s/ Salvatore Guerriero
CAESAR RIVISE, PC
Salvatore Guerriero
Robert S. Silver (*Pro Hac Vice*)
Pei-Ru Wey (*Pro Hac Vice*)
1635 Market Street
12th Floor - Seven Penn Center
Philadelphia, PA 19103-2212

Attorneys for Defendant InvaGen Pharmaceuticals, Inc.